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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,676	12/06/2001	Ramesh Subramanian	01P23114US	8645

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Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER

MARCANTONI, PAUL D

ART UNIT PAPER NUMBER

1755

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,676

Applicant(s)

SUBRAMANIAN, RAMESH

Examiner

Paul Marcantoni

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-10,13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-10,13, and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Applicant's arguments filed 5/18/04 have been fully considered but they are not persuasive.

102/103 Rejections:

The applicants' amendment of claims changing the scope of the claim from "comprising" to consisting essentially of and adding the limitation of at least 30 wt% for their stabilizer (e.g. yttria, ytterbia, lanthia, or gadolinia) necessitated the grounds of rejection below:

US Patents Relied Upon:

Maloney 6,177,20 B1
Worrell et al. 4,931,214
Mase et al. 4,507,394
Kondo et al. 5,789,330

Claims 1, 3-6, 8-10, 13, and 14 are rejected under 35 U.S.C. 102(a and b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maloney 200B1, Worrell et al. 214, Mase et al. '394, or Kondo '330

Note: All references not listed above have been withdrawn.

Maloney 200 B1 teaches a zirconia coating comprising 5-60 mol% gadolinia and the rest zirconia which also leads to a cubic crystal structure and would appear to anticipate the instant invention (see claims).

Worrell et al. teach a composition comprising 25-98 mol% of cubic zirconia and 1.5 to 25 mol% of stabilizer oxide such as yttrium oxide or yttria. Note that in claim 10 20 mol% yttrium oxide is 37 wt% yttrium oxide so thus the Worrell et al. composition anticipates the instant invention. Further, although Worrell et al. do not teach the same

Art Unit: 1755

intended use as a coating, the new use of a known composition is not a patentable distinction.

Mase et al. teach a composition comprising zirconia and/or hafnia and rare earth oxides in amounts anticipating the instant invention (see claims). Although, Mase et al. do not teach the intended use as a coating, the new use of a known composition is not a patentable distinction.

Kondo et al. '330 teach cubic phase zirconia comprising 0.1 to 40 wt% stabilizer such as yttria, gadolinia, or ytterbia (see col.3, lines 5-15) thus anticipating the instant invention. Note that even if the reference above does not anticipate, overlapping ranges of amounts have been held to be prima facie obvious to one of ordinary skill in the art. Kondo et al. teach that a portion of the zirconia is cubic so it still reads upon the applicants' claimed invention. Consisting essentially of does not change this because applicants have not shown that the presence of other zirconia phases such as monoclinic and/or tetragonal with the cubic phase would materially affect the composition and not lead to peak ionic matrix conductivity. Had applicants used "consisting of" claim language, this reference would not have been applicable because it would have excluded the monoclinic and tetragonal zirconia phases. However, applicants did not do so. Note that this is not a "suggestion" by the examiner for any future amendment of applicants' claims but merely to point out observations of the present state of these claims.

Response:

The examiner acknowledges the amendment adding at least 30 wt% for various stabilizers such as yttria, ytterbia, lanthia, and gadolinia. The rejections under 35 USC 112 have also thus been withdrawn as a result of this amendment as well as the removal or withdrawal of several prior art references in the prior art rejection above.

The applicants argue that Maloney only relates to gadolinia-zirconia and not yttria-zirconia. Applicants state that Maloney actually "teaches away" from the present claims by stating that the yttria may be used "up to 25 mol.%" only and thus, allegedly, does not teach their limitation of claims 1 and 6 of at least 30 wt% yttria. The examiner disagrees. Maloney not only does not teach away but he actually teaches an overlapping range of amounts when using 25 mol%. It would appear that applicants are arguing their position as if "mole percent" and "weight percent" are synonymous. They are most certainly not the same. They are very different. A conversion of 75 mol% zirconia and 25 mol% yttria converts to 61.8 wt% zirconia and 38.2 wt% yttria which overlaps the applicants claimed invention. It is also evident that because Maloney may add up to 60 mol% gadolinia he also meets the limitations of claims 10-14.

The applicants also argue Worrell and imply that their amendment to "consisting essentially of" claim language makes their claimed invention different than the claimed invention of Worrell because Worrell teaches an additional third constituent of a Group V or VI A metal to increase electron conductivity. In rebuttal, the examiner disagrees. When applicants contends that the modifying components in the reference are excluded by the recitation of "consisting essentially of", applicants have the burden of showing the basic and novel characteristics of their composition – i.e. A showing that the introduction

of these components would materially change the characteristics of the applicants' composition. In re Delajarte, 337 F 2d 870, 143 USPQ 256 (CCPA 1964). Applicants have not met their burden by showing that the inclusion of this third constituent materially effects the claimed invention through experimental evidence or other means.

The applicants also argue that their invention is not concerned with electron conductivity but rather ionic conductivity which they state is a different physical parameter. The examiner agrees that the parameters of electronic and ionic conductivity are different. Yet, the examiner points to applicants' attention that Worrell's own title clearly teaches that he is concerned with not only electronic conductivity but ionic conductivity (see title of the Worrell patent).

The applicants also argue that Worrell is directed to a conducting body and not a thermal barrier coating composition. In rebuttal, it is known in the art that coatings can still be used as a conducting body or material. Further, Worrell does not limit his invention. Worrell teaches that although the production of sintered ceramics is especially preferred for special uses, for example for high temperature fuel cells in the case of which a gas tight electrode is necessary, the bodies according to the present invention "are not limited thereto" (col.3, lines 20-25).

The applicants also argue that Mase teaches away from the instant invention because Mase is directed to a three component composition and the third component will increase sintering teaching away from the applicants' claimed invention and the deletion of the third constituent in Mase would destroy the functionality of the Mase composition for its intended purpose. In rebuttal, while in accordance with In re

Art Unit: 1755

Delajarte listed above, applicants argue that the presence of this third component would materially and deleteriously affect their composition, they have not provided any experimental evidence (none submitted under 37 CFR 1.132 for example) to bolster their position. Their position is allegation without the benefit of any experimental evidence or other evidence showing that this is scientifically what would truly happen.

For the foregoing reasons, the rejection above is maintained.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

Art Unit: 1755

supervisor, Mark Bell, can be reached at 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Marcantoni
Primary Examiner
Art Unit 1755